

WHAT IS CLAIMED IS:

1 1. For use in a radio access network which supports radio communication with a
2 mobile station (MS), a method comprising:

3 (1) sending from the radio network access network to the mobile station
4 (MS) a message that downloads configuration options for each of plural header
5 adaptation strategies for Internet-transmissible packets;

6 (2) receiving at the radio access network a message which informs the radio
7 access network which of the plural strategies is elected by the mobile station (MS).

8 2. The method of claim 1, wherein the message of step (1) and the message of
9 step (2) are radio resource control (RRC) messages.

10 3. The method of claim 2, wherein the message of step (1) is a radio bearer
11 setup message and the message of step (2) is a radio bearer setup complete message.

12 4. The method of claim 1, wherein the plural header adaptation strategies
13 includes header compression.

14 5. The method of claim 4, wherein the header compression strategy is for a
15 multimedia service.

16 6. The method of claim 1, wherein the plural header adaptation strategies
17 includes header removal.

18 7. The method of claim 6, wherein the header removal strategy is for a spectrum
19 efficient voice packet voice bearer that reuses codec-specific channel coding.

20 8. The method of claim 1, wherein the radio access network is a GSM/EDGE
21 radio access network.

22 9. The method of claim 1, wherein the message of step (1) is handover
23 command message for handing over control of the mobile station from a source radio

3 access network to a target radio access network, and the message of step (2) is handover
4 complete message.

1 10. The method of claim 9, further comprising:

2 generating, at a target radio access network, the configuration options for each of
3 the plural header adaptation strategies;

4 sending the configuration options from the target radio access network to a
5 source radio access network; and

6 sending the configuration options from the source radio access network to the
7 mobile station.

11. The method of claim 10, wherein one of the target radio access network and
the source radio access network is a GSM/EDGE (GERAN) radio access network and
another of the target radio access network and the source radio access network is a
UTRAN (Universal Mobile Telecommunications radio access network).

12. The method of claim 1, wherein the Internet-transmissible packets are
speech or voice packets having a RTP/UDP/IP header.

13. A radio access network which supports radio communication with a mobile
station (MS), the radio access network comprising a network node which (1) sends to
the mobile station (MS) a message that downloads configuration options for each of
the plural header adaptation strategies for Internet-transmissible packets and which (2)
receives a message from the mobile station (MS) which informs the radio access
network which of the plural strategies is elected by the mobile station (MS).

14. The apparatus of claim 13, wherein the message sent from the radio access
network node to the mobile station (MS) and the message received at the radio access
network from the mobile station (MS) are radio resource control (RRC) messages.

15. The apparatus of claim 13, wherein the message sent from the radio access
network node to the mobile station (MS) is a radio bearer setup message and the
message received at the radio access network from the mobile station (MS) is a radio
bearer setup complete message.

1 16. The apparatus of claim 13, wherein the plural header adaptation strategies
2 includes header compression.

1 17. The apparatus of claim 16, wherein the header compression strategy is for a
2 multimedia service.

1 18. The apparatus of claim 13, wherein the plural header adaptation strategies
2 includes header removal.

1 19. The apparatus of claim 18, wherein the header removal strategy is for a
2 spectrum efficient voice packet voice bearer that reuses codec-specific channel coding.

1 20. The apparatus of claim 13, wherein the radio access network is a
2 GSM/EDGE radio access network.

1 21. The apparatus of claim 13, wherein the radio access network node is a base
2 station controller (BSC) node.

1 22. The apparatus of claim 13, wherein the network node is a node of one of a
2 target radio access network and a source radio access network, and wherein the
3 message that downloads configuration options for each of plural header adaptation
4 strategies is a handover command message for handing over control of the mobile
5 station from the source radio access network to the target radio access network and the
6 message which informs which of the plural strategies is elected is a handover complete
7 message.

1 23. The apparatus of claim 22, wherein the target radio access network
2 generates the configuration options for each of the plural header adaptation strategies
3 and sends the configuration options from the target radio access network to a source
4 radio access network; and wherein the source radio access network sends the
5 configuration options from the source radio access network to the mobile station.

1 24. The apparatus of claim 23, wherein one of the target radio access network
2 and the source radio access network is a GSM/EDGE (GERAN) radio access network

3 and another of the target radio access network and the source radio access network is a
4 UTRAN (Universal Mobile Telecommunications radio access network).

1 25. The apparatus of claim 13, wherein the Internet-transmissible packets are
2 speech or voice packets having a RTP/UDP/IP header.

1 26. A mobile station (MS) which is in radio communication with a radio access
2 network, the mobile station (MS) comprising:

3 a transceiver unit which receives a downloading message from the radio access
4 network and sends a return message to the radio access network, the downloading
5 message including configuration options for each of plural for Internet-transmissible
6 packets header adaptation strategies;

7 a unit which elects one of the plural header adaptation strategies and includes the
8 elected strategy in a return message.

9 27. The apparatus of claim 26, wherein the downloading message and the return
10 message are radio resource control (RRC) messages.

11 28. The apparatus of claim 27, wherein the downloading message is a radio
12 bearer setup message and the return message is a radio bearer setup complete message.

13 29. The apparatus of claim 26, wherein the plural header adaptation strategies
14 includes header compression.

15 30. The apparatus of claim 29, wherein the header compression strategy is for a
16 multimedia service.

17 31. The apparatus of claim 26, wherein the plural header adaptation strategies
18 includes header removal.

19 32. The apparatus of claim 31, wherein the header removal strategy is for a
20 spectrum efficient voice packet voice bearer that reuses codec-specific channel coding.

21 33. The apparatus of claim 26, wherein the radio access network is a
22 GSM/EDGE radio access network.

1 34. The apparatus of claim 26, wherein the message that downloads
2 configuration options for each of plural header adaptation strategies is a handover
3 command message for handling over control of the mobile station from a source radio
4 access network to a target radio access network and the message which informs which
5 of the plural strategies is elected is a handover complete message.

1 35. The apparatus of claim 34, wherein one of the target radio access network
2 and the source radio access network is a GSM/EDGE (GERAN) radio access network
3 and another of the target radio access network and the source radio access network is a
4 UTRAN (Universal Mobile Telecommunications radio access network).

1 36. The apparatus of claim 26, wherein the Internet-transmissible packets are
2 speech or voice packets having a RTP/UDP/IP header.